PTO/SB/21 (09-04)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission: 19

Application Number	09/480,837
Filing Date	Januray 10, 2000
First Named Inventor	Stephan Gehring
Art Unit	2664
Examiner Name	Chirag G. Shah
Attorney Docket Number	00041

ENCLOSURES *(Check all that apply)*

- [x] Fee Transmittal Form
  - [x] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [x] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [x] Other Enclosure(s) (please Identify below):

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Remarks

The Commissioner is hereby authorized to charge any additional fees due in connection with this submission to Deposit Account 50-3143, in the name of Pulse~LINK, Inc.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Pulse~LINK, Inc.		
Signature			
Printed name	Peter R. Martinez		
Date	February 21, 2006	Reg. No.	42,845

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Peter R. Martinez	Date	February 21, 2006

PTO/SB/17 (12-04v2)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2005

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	250.00

Complete if Known	
Application Number	09/480,837
Filing Date	January 10, 2000
First Named Inventor	Stephan Gehring
Examiner Name	Chirag G. Shah
Art Unit	2664
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METHOD OF PAYMENT (check all that apply)

☑ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 50-3143 Deposit Account Name: Pulse~LINK, Inc.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims	Fee ($)		Fee Paid ($)
_____	- 20 or HP =	_____	x _____	=	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims	Fee ($)		Fee Paid ($)
_____	- 3 or HP =	_____	x _____	=	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof		Fee ($)		Fee Paid ($)
_____	- 100 =	_____	/ 50 =	_____	(round **up** to a whole number) x	_____	=	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): FEE FOR APPEAL BRIEF	$250.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 42,845	Telephone 760-607-0844
Name (Print/Type)	Peter R. Martinez		Date February 21, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Stephan Gehring et al.	Group Art Unit:	2664
		Examiner:	Chirag G. Shah
Serial No.:	09/480,837		
Filed:	January 10, 2000		
For:	AN APPARATUS AND METHOD FOR MANAGING VARIABLE-SIZE DATA SLOTS WITH TIMESTAMP COUNTERS WITHIN A TDMA FRAME		

Carlsbad, California
February 21, 2006

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

This brief is submitted under 35 U.S.C. §134 and is in accordance with 37 C.F.R. Parts 1, 5, 10, 11, and 41, effective September 13, 2004 and published at 69 Fed. Reg. 155 (August 2004). This brief is further to Appellant's Notice of Appeal filed December 19, 2005, and is filed Tuesday, February 21, after the Monday, February 20, Presidents' Day Holiday.

Table of Contents

(1) Real Party in Interest

The real party in interest is Pulse-Link, Inc.

(2) Related Appeals/Interferences

No other appeals or interferences exist which relate to the present application or appeal.

(3) Status of Claims

Claims 1-20 are pending and rejected.

(4) Status of Amendments

No amendments are outstanding.

(5) Summary of Claimed Subject Matter

As an initial matter, it is noted that according to the Patent Office, the concise explanations under this section are for Board convenience, and do not supersede what the claims actually state, 69 Fed. Reg. 155 (August 2004), see page 49976. Accordingly, nothing in this Section should be to change (e.g., broaden, narrow) the scope of the claims by the process of claim interpretation, prosecution history estoppel or in any other manner, for purposes of this appeal and/or subsequently to this appeal.

As set forth in independent claim 1, and similarly in independent claims 9, 14 and 20, the invention is an ultra wide band network including a master device and a plurality of slave devices in communication with the master device. Communication between the master and slave devices is accomplished using ultra wide band signals, or pulses. The information content of the ultrawide band pulses are arranged in the form of packets. A Medium Access Control (MAC) protocol is employed for transmission and reception of the network packets. Each packet includes a Time Division Multiple Access frame having a start-of-frame section, a command section, a data slot section containing a plurality of variable length slots, a synchronization slot, and a timestamp slot.

The features disclosed in independent claims 1, 9, 14 and 20 will enable ultra wide band (UWB) communication technology to be employed in an UWB network having multiple users where each user may have different data transmission requirements (*i.e.*, variable length data slots).

This invention deals in the precise physics of wireless, electromagnetic spectrum communications, which means that this application falls squarely in the domain of the "predictable arts."

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1-20 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

(7) Argument

As an initial matter, it is noted that according to the Patent Office, a new ground of rejection in an examiner's answer should be "rare", and should be levied only in response to such things as newly presented arguments by Applicant or to address a claim that the examiner previously failed to address, 69 Fed. Reg. 155 (August 2004), see, e.g., pages 49963 and 49980. Furthermore, a new ground of rejection must be approved by the Technology Center Director or designee and in any case must come accompanied with the initials of the conferees of the appeal conference, id., page 49979.

The written description rejection is based on the fact that the present application, as originally filed, discloses the ultra wide band aspect of the present invention in materials incorporated by reference. As explained below, there is no rule against providing written description requirement support by the use of material incorporated by reference. Material incorporated by reference is entitled to all the dignity of material set forth in the specification proper – that is what incorporation by reference is all about. Looking beyond the false issue of incorporation by reference, it is clear that the inventor possessed the invention now claimed at the time of the priority filing under the applicable written description requirement standards as developed by case law.

I. Relevant Prosecution History

During prosecution, the independent claims were amended to change "network" to "[a]n ultra wide band network" that employs "ultra wide band signals." This amendment was made to speed allowance of an aspect of the invention, namely, ultra wide band signals using the claimed special packet format, which is manifestly absent in the prior art. Moreover, the prior art also fails to teach or suggest any motivation to modify and/or combine, as evidenced by the Examiner's withdrawal of an obviousness rejection.

Written description requirement support for these ultra wide band related amendments is shown in the following table:

Document	Nexus To Present Claims	Relevant Disclosure
U.S. patent 6,597,683 Col. 6 Lines 17-30	Incorporated by reference in present application.	The MAC protocol of the present invention may be utilized in various network configurations and topologies including, for example, guided or wired media as well as unguided or wireless media. The MAC protocol is particularly advantageous in wireless network configurations because of the error-correction and communication management features provided by the invention. *Such an illustrative wireless network is a synchronous wireless network comprising a plurality of transceiver devices transmitting and receiving pulses using a baseband or "ultra wide band" transport.* Under this network configuration the MAC protocol and method of the present invention provide communication management, flow control, and failure-recovery for the shared air transport medium. [*emphasis added*]

In response to the ultra wide band claim amendments, the Examiner added a new written description requirement rejection under 35 U.S.C. § 112, first paragraph, to the existing obviousness rejection. However, as discussed above, at the Pre-Appeal Brief Review, the Examiner withdrew the obviousness rejection.

Applicant respectfully submits that the written description requirement rejection is incorrect

and should be withdrawn so that the pending claims may proceed to issue. This is the central issue of this appeal.

II. Pertinent Written Description Requirement Law

For purposes of this appeal, the most pertinent legal issue is whether material incorporated by reference is suitable for use as written description requirement support as required by 35 U.S.C. § 112, first paragraph. The answer is well-settled law. The answer is "yes." Specifically, 37 C.F.R. § 1.57(c) states:

> "Essential material" may be incorporated by reference, but only by way of an incorporation by reference to a U.S. patent or U.S. patent application publication, which patent or patent application publication does not itself incorporate such essential material by reference. "Essential material" is material that is necessary to: (1) Provide a written description of the claimed invention . . . as required by the first paragraph of 35 U.S.C. 112 . . .

The above language, taken verbatim from the C.F.R., alone is enough to answer the central issue in this appeal. Still, the elaboration of this section in the M.P.E.P. is helpful to show that this portion of the C.F.R. is indeed well-founded in precedent. M.P.E.P. Section 608.01(p) states:

> An application as filed must be complete in itself in order to comply with 35 U.S.C. 112. Material nevertheless may be incorporated by reference, *Ex parte Schwarze*, 151 USPQ 426 (Bd. App. 1966). An application for a patent when filed may incorporate "essential material" by reference to (1) U.S. patent. . . (M.P.E.P., Eighth Ed., Rev. 3, August 2005, page 600-91)

According to the M.P.E.P. and the C.F.R., written description support, which is a form of "essential material," is allowed to be set forth by incorporation by reference, rather than being explicitly recited in the patent application as filed. In other words, an incorporation by reference is sufficient to show that the Applicant "possessed the invention" for written description requirement

purposes, so long as the incorporated document really does support the claim language at issue. In fact, the clarity and force with which the law says that essential material can be incorporated by reference is a strong indication that when an Applicant takes the trouble to incorporate something by reference (as contrasted with less rigorous forms of reference), it is an Applicant's way of signaling that the incorporated material may very well come to be important for 35 U.S.C. § 112, first paragraph purposes. In other words, material incorporated by reference is not to be considered as a second class citizen in the specification – if anything, it is entitled to greater dignity and focus.

III. The Present Claims Meet The Written Description Requirement

In the present case, each and every element contained in each of the independent claims can be found in the specification, in the same exact words. In addition, Figures 1-5 provide additional descriptive means that fully set forth the claimed invention. For example, claim 1 is reproduced below with parenthetical insertions containing the location in the specification where exact *in haec verba* support for each claim element can be found. For clarity, only one location is cited, however, a review of the specification will reveal that most elements are repeated throughout the specification:

1. An ultra wide band network *(incorporation by reference from U.S. 6,597,683)* comprising:

a master device and a plurality of slave devices in network communication with said master device *(FIG. 1)*, the communication using a Time Division Multiple Access frame *(FIG. 2)* comprising a multiplicity of ultra wide band signals *(incorporation by reference from U.S. 6,597,683)*;

a Medium Access Control layer protocol for transmission and reception of network packets *(page 6, lines 11-26 and page 7, lines 1-3)*, comprising:

a Time Division Multiple Access frame definition *(FIG. 2)* having,

a start-of-frame section *(FIG. 2)*,

a command section *(FIG. 2)*,

a data slot section containing a plurality of variable length slots *(FIG. 2)*,

a synchronization slot *(FIG. 2)*, and

a timestamp slot *(FIG. 2)*.

Thus, explicit support for each and every claim element can be found in the specification in the form of words and figures that fully set forth the claimed invention. Therefore, Applicant submits that claims 1-20 meet the written description requirement.

Despite the overwhelming force of the law that says that essential material can be incorporated by reference, the Examiner attempts to maintain the written description requirement rejection by stating: "No where in the specification of the present invention or the co-pending invention is there a written description of what is meant by a TDMA frame having a multiplicity of ultra wide band signals." This is incorrect. The present specification states:

> Referring now to FIG. 4, as well as FIG. 1 through FIG. 3b, there is shown generally the method of dynamically requesting and assigning a variable-length data slot to a requesting or source slave device and a target slave device. This method is a modified data link request (REQ) and service request (SREQ) sequence as described in copending application entitled "MEDIUM ACCESS CONTROL PROTOCL FOR CENTRALIZED WIRELESS NETWORK COMMUNICATION MANAGEMENT" having attorney docket number "INT-99-005" filed on September 10, 1999 which is expressly incorporated herein by reference. (now U.S. patent 6,597,683).

Therefore, the relationship between the variable-length data slot TDMA mode and the incorporated disclosure of the '683 patent is clear and tight. Analysis therefore proceeds to determine what kinds of electromagnetic signal systems the '683 patent suggests to transmit the variable-length data slot TDMA mode of the present invention. Answering this issue, the '683 patent discloses:

> The MAC protocol of the present invention may be utilized in various network configurations and topologies including, for example, guided or wired media

> as well as unguided or wireless media. The MAC protocol is particularly advantageous in wireless network configurations because of the error-correction and communication management features provided by the invention. *Such an illustrative wireless network is a synchronous wireless network comprising a plurality of transceiver devices transmitting and receiving pulses using a baseband or "ultra wide band" transport.* [*emphasis added*]

In other words, the '683 patent clearly states that ultra wide band technology is one of the preferred electromagnetic signal systems. Invention possessed. Claims supported. The fact that the claim limitation at issue in this case is disclosed as a preferred feature in incorporated material does nothing to undercut that the Applicant was in possession of the invention as of the claimed priority date.

Conclusion

For all of the reasons set forth above, Applicant respectfully submits that all of the elements contained in pending claims (claims 1-20) are sufficiently described in the originally-filed specification, thereby meeting the written description requirement. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

2.21.06

Peter Martinez
Attorney for Applicant, Pulse-Link, Inc.
Reg. No. 42,845

APPENDIX A - APPEALED CLAIMS

1. (previously presented) An ultra wide band network, comprising:

a master device and a plurality of slave devices in network communication with said master device, the communication using a Time Division Multiple Access frame comprising a multiplicity of ultra wide band signals;

a Medium Access Control layer protocol for transmission and reception of network packets, comprising:

a Time Division Multiple Access frame definition having,

a start-of-frame section,

a command section,

a data slot section containing a plurality of variable length slots,

a synchronization slot, and

a timestamp slot.

2. (previously presented) The ultra wide band network of claim 1, wherein the Medium Access Control layer protocol is configured to implement dynamic requisition of variable length data slots within said frame.

3. (previously presented) The ultra wide band network of claim 1, wherein the Medium Access Control layer protocol is configured to implement dynamic allocation of said variable-length data slots.

4. (previously presented) The ultra wide band network of claim 1, wherein the Medium Access Control layer protocol is configured to implement dynamic reallocation of said variable-length data slots.

5. (previously presented) The ultra wide band network of claim 1, wherein said master device and slave device are further configured to coordinate a scheduled switch from a first set of data slot parameters to second set of data slot parameters.

6. (previously presented) The ultra wide band network of claim 5, wherein said timestamp slot further comprises a bit-field which is incremented by a master timestamp counter.

7. (previously presented) The ultra wide band network of claim 6, wherein each of said slave devices is configured to maintain a local copy of said master timestamp counter.

8. (previously presented) The ultra wide band network of claim 1, wherein said variable-length data slots of said frame have a granularity of one bit.

9. (previously presented) A networking system, comprising:

a master device;

a plurality of slave devices in network communication with said master device, the network communication using a Time Division Multiple Access frame comprising a multiplicity of ultra wide band signals;

a Medium Access Control layer protocol capable of transmission and reception of a plurality of network packets communicated between said master device and said slave devices; and

a Time Division Multiple Access frame definition having,

a data slot section containing a plurality of variable-length data slots,

a synchronization slot, and

a timestamp slot.

10. (original) The networking system as recited in claim 9 further comprising a bit-field which is configured to be incremented by said master device in a modulo-N manner by a timestamp counter within said timestamp slot.

11. (original) The networking system as recited in claim 10, wherein each of said slave devices is configured to provide a local copy of said master timestamp counter which allows slave devices to identify a scheduled frame time.

12. (original) The network system as recited in claim 11, wherein each slave device is structured to coordinate a schedule switch from a first set of data slot parameters to a second set of data slot parameters.

13. (original) A networking system as recited in claim 11, wherein said protocol further is structured to implement dynamic reallocation of said variable-length data slots.

14. (previously presented) A computer program for scheduling the assignment of variable length data slots in a network system having a master device and a plurality of slave devices in network communication with said master device the network communication using a Time Division Multiple Access frame comprising a multiplicity of ultra wide band signals, comprising;

providing a Time Division Multiple Access frame definition comprising a synchronization slot and a timestamp slot, and a data slot section having a plurality of variable-length data slots; and

determining a schedule time to communicate the assignment and reallocation of said variable-length data slots to each of said slave devices.

15. (original) The method of claim 14, further comprising scheduling the assigning and reallocation from a first set of data slot parameters to a second set of data slot parameters with a scheduling frame transmitted at said scheduled time.

16. (original) The method of claim 15, further comprising switching the data slot parameters for each participating slave device at said scheduled time.

17. (previously presented) The ultra wide band network of claim 1, wherein the network is selected from a group consisting of: a wire media network, a wireless media network, and a network comprising wire and wireless media.

18. (previously presented) The networking system as recited claim 9, wherein the network is selected from a group consisting of: a wire media network, a wireless media network, and a network comprising wire and wireless media.

19. (previously presented) The method of claim 14, wherein the network is selected from a group consisting of: a wire media network, a wireless media network, and a network comprising wire and wireless media.

20. (previously presented) An ultra wide band network, comprising:

a master device and a plurality of slave devices, the slave devices in communication with the master device, the communication using a Time Division Multiple Access frame comprising a multiplicity of ultra wide band signals.

APPENDIX B - EVIDENCE

None (this sheet made necessary by 69 Fed. Reg. 155 (August 2004), page 49978.)

APPENDIX C - RELATED PROCEEDINGS

None (this sheet made necessary by 69 Fed. Reg. 155 (August 2004), page 49978.)